

## AMENDMENTS TO THE CLAIMS

### Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1-16. (canceled)

17. (currently amended) A method of determine the birth date of a ~~biomolecule~~ tooth enamel in a ~~an organism-population animal~~ comprising the steps of:

- (a) collecting a sample of said ~~biomolecule~~ tooth enamel from an ~~organism-population animal~~; wherein said ~~biomolecule~~ tooth enamel is purified away from other carbon containing molecules of said ~~organism-population animal~~;
- (b) determining a delta <sup>14</sup> value of the carbon atoms in said ~~biomolecule~~ tooth enamel; and
- (c) comparing the delta <sup>14</sup> value with a calibration delta <sup>14</sup> chart ~~to determine and determining~~ a birth date of said ~~biomolecule~~ tooth enamel, wherein the birth date of said tooth enamel is determined to within 5 years of its actual birth date.

18-20. (canceled)

21. (currently amended) The method of claim ~~20~~ 17, wherein said animal is selected from the group consisting of a human, a horse, a pig, a cow, a rabbit, a dog, a rat and a mouse.

22. (original) The method of claim 17, wherein said delta <sup>14</sup> value is determined by an accelerator mass spectrometer (AMS).

23. (currently amended) The method of claim 17 further comprising a step of calculating a birth date of said animal from the birth date of said ~~biomolecule~~ tooth

enamel.

24-31. (canceled)

32. (new) The method of claim 17 wherein said calibration delta <sup>14</sup> chart is selected from a calibration delta <sup>14</sup> chart shown in Figure 1.

33. (new) The method of claim 17 wherein said delta <sup>14</sup> chart is selected from the group consisting of a chart shown in Figure 1A, Figure 1B, Figure 1C, Figure 1D and Figure 1E.